

Saskatchewan

Outbreak of neonatal infectious bovine rhinotracheitis

An outbreak of neonatal infectious bovine rhinotracheitis (IBR) occurred in a herd of 107 polled Hereford cattle. The basic herd of 90 cows and heifers was vaccinated once in the fall of 1989 with a killed IBR vaccine. In late 1989, eight cows from an unvaccinated herd, and nine cows and heifers from a herd vaccinated twice with a modified live virus vaccine, were added to the herd. Beginning February 1, 1990, cows in the main herd developed ocular and nasal discharges. Within 2–3 weeks, all heifers were affected similarly. Seven calves, born between February 27 and March 4, to five heifers and a second-calf cow from the main herd, and to one heifer in the intranasal-vaccinated group, developed drooling and ocular and nasal discharges at the ages of 2–4 days, and all died within 6–7 days. In the intranasal-vaccinated group, two heifers aborted.

Three of the neonatal calves were necropsied. In two calves, there was subtle multifocal necrosis of the upper respiratory tract and adrenal gland, with focal hepatic necrosis in one calf, and multifocal pneumonia in the other calf. The third calf had focal erosions and ulcerations on the muzzle ("red nose"), hard palate, tongue, and esophagus, and severe necrosis with a pseudodiphtheritic membrane covering the pharyngeal tonsil and the mucosal surface of the upper respiratory tract. This calf also had pneumonia and focal necrosis of the liver and adrenal gland, and severe thymic atrophy. One autolysed late-term aborted fetus was examined. Histologically, in affected tissues in neonatal calves, and in the placenta and tissues from the fetus, there were foci of necrosis, and sometimes, eosinophilic intranuclear inclusion bodies. Virus isolation, the fluorescent antibody test, or immunoperoxidase stains of selected tissues from the seven neonates and the fetus, confirmed the presence of bovine herpesvirus-1, the cause of IBR.

In young calves and fetuses, IBR is a fatal disseminated infection involving one or more mucosal surfaces of the respiratory and gastrointestinal tracts, and visceral organs (liver, spleen, thymus and adrenal gland). The lesions may be subtle and are often not visible in autolysed tissue. The presence of necrosis of the adrenal gland is usually a good indicator of, but not always present in, a disseminated herpesvirus infection. In older animals, IBR is limited to the upper respiratory tract, although there is an increased risk of fatal secondary bacterial pneumonia.

A single vaccination with a killed IBR vaccine is often not efficacious, and is one of many reasons for outbreaks of this disease in vaccinated herds (1). Generally, vaccination with modified live virus intranasal vaccine can be effective but requires proper administration. One abortion due to IBR and an IBR-infected neonate from the intranasal-vaccinated group are evidence that some of the heifers had not been adequately protected. Control of IBR in neonatal calves can be difficult. Experimentally, neonatal calves can be protected from the disseminated form of the disease by colostral antibody from properly immunized cattle (2), or by use of a modified-live virus vaccine (1). Following diagnosis of neonatal IBR, all newborn calves in this herd received colostrum from IBR-hyperimmunized dairy cows.

References

1. Mechor G, Rousseaux CG, Radostits OM, Babiuk LA, Petrie L. Protection of newborn calves against fatal multisystemic infectious bovine rhinotracheitis by feeding colostrum from vaccinated cows. *Can J Vet Res* 1987; 51: 452–459.
2. Hjerpe CA. Bovine vaccines and herd vaccination programs. *Vet Clin North Am: Food Anim Pract* 1990; 6: 171–194.

JoAnn Schuh, Department of Veterinary Pathology, Western College of Veterinary Medicine, University of Saskatchewan, Saskatoon, Saskatchewan S7N 0W0; Stu Walker, Shellbrook Veterinary Clinic, Box 1120, Shellbrook, Saskatchewan S0J 2E0.

British Columbia

Paratyphoid infection in English sparrows

At the beginning of the new year, the Okanagan office of the provincial Ministry of Environment began to receive calls concerning backyard die-offs of overwintering songbirds. Dead and dying birds, primarily English sparrows, were found in and around platform feeding stations. Daily mortality was irregular but continued for several weeks. Concern was expressed about the possibility of poisoning.

Two English sparrows were submitted to the Animal Health Centre, Abbotsford. Both were in poor general body condition with marked reduction in muscle mass and fat stores. The digestive tract was empty. The liver and spleen were markedly enlarged and mottled. The wall of the crop was thickened and contained numerous firm, 2 × 2 mm caseous nodules extending into

the lumen. Histopathology revealed generalized, random, multifocal caseation necrosis throughout the liver, spleen, lung and crop. *Salmonella typhimurium* was isolated in large numbers from all tissues cultured.

***Salmonella typhimurium* infection is endemic in the wild passerine population and asymptomatic carriers may serve as reservoirs of infection for other birds and humans.** Late-winter conditions may have increased disease susceptibility as well as the number of shedding carriers. Fecal contamination of feed and feeding platforms by birds excreting *S. typhimurium* could serve as a concentrated source of infection by late winter. Recommendations were made to provide clean, alternative feeding stations and to disinfect old feeders.

Victoria Bowes, Animal Health Centre, Ministry of Agriculture and Fisheries, Box 100, Abbotsford, British Columbia V2S 4N8.